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Review Article

Health and Illness in History, Science and Society

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Abstract

Health is a fundamental human right. The World Health Organization defines it as a "state of complete physical, psychological and social well - being and not merely the absence of disease or infirmity". The health of individuals, however, is also linked to the environment in which they live and especially to their ability to adapt and integrate into their life context. The relationship with the environment is extremely important because it is that interaction that outlines the concept of normality compared to pathology. Such normality needs to be contextualised by gender, geographical origin and by the individuals' living conditions: as a matter of fact, what is normal for a young person may differ from what is normal for a senior one. That is to say, the concept of health is indeed relative and it is the result of an interesting evolution of the concept of illness. From the first approaches - dealing with the mere treatment of the symptoms - to the promise of a free-from-pain society, science and economics have played a significant role in redefining the dualism health/ illness. The article reflects on these two concepts, health and illness, in history and nowadays, and discusses the future of the medical science.

Introduction

Analysing the concept of illness is a rather complex task. Just like for the concept of health – presented by the philosopher Hans - Georg Gadamer as a "[...] general feeling of personal well-being [which] appears mostly when we, in our feeling of personal well-being, are open to new things, are ready to start new business, without considering demands made on us" [1] - there is an important dimension of relativity that needs to be considered: it could be stated that, in the presence of illness, there is a significant change in the functionality of an organ or the entire organism. W. E. Boyd maintains that "illness is a change of the condition in which the organism is in perfect harmony with its environment [...]" [2].

The concept of illness has evolved. In the past, it was linked to the presence of microbes. Later, the emphasis was placed on the constitution and the environment. Nowadays, illness is seen as a system that the body puts in place to find again its lost balance [3] In ancient times, feeling ill concerned the individual only; today, a state of illness can be diagnosed by a physician by objective criteria. Therefore the concept of illness can be seen from many different perspectives.

It is interesting to note that, in the English language, there are three terms to indicate a pathological state: illness, which identifies the personal emotional state connected to the loss of health; disease, which refers to the objective,

biological and measurable dimension of it - strictly linked to the physician's activity - and sickness, which refers instead to the public dimension of the disease and highlights the link between illness and society.

Compared to the ontological model, which aims at eliminating the symptoms, the functional/relational model considers the illness as a dynamic event, an endogenous reaction to the break of a balance. In this perspective, body and mind are inseparable: it is the entire organism that becomes ill, not the single organ. In this model, the physician/patient relationship is crucial, and the physician promotes self - healing processes [4]. Western medicine fully adheres to the so-called scientific method, intended as a set of rules that governs the process of acquiring knowledge. Key elements of the scientific method are the experimental observation of a natural event, the formulation of a general hypothesis in which this event occurs, and the ability to control the hypothesis through subsequent observations.

Science, after a long period in which it was interpreted as true in an absolute sense, completely changed after Albert Einstein, who, with his theory of relativity, laid the basis of quantum physics. Almost simultaneously, the aetiological agents of infectious diseases were discovered, and the first effective remedies to control them were introduced. At first, the arsenical compounds discovered by Paul Ehrlich – which were capable of inhibiting bacterial growth - and then the first antibiotics. Medicine thus became somewhat omnipotent, promising a free-from-pain society. The discoveries of the new physics did not affect the certainties of the twentieth-century medicine. This lack of integration has led the scientific - medical thinking to the reality we experience today.

The relationship between health, nutrition and environment

We cannot speak of health and illness without considering the issue of the environment. As stated by Paul Crutzen – who was awarded the Nobel Prize in Chemistry in 1995 – we might call the geological age in which we live as Anthropocene, that is the era ruled by men. For thousands of years, human beings used for their nutrition and needs plants, seeds and animals: a whole biological world, the result of millions of years of evolution. The richness and variety of our food is the result of extraordinary natural biodiversity. With the arrival of the Modern Era, a gradual extinction of animal and plant species has begun. Alterations and destructions have become exponential: over the last fifty years, we lost more biological heritage than in any previous era. Furthermore, the disappearance of a plant or an animal involves the impossibility of survival of other species connected to them.

In the nineties, some multinational corporations put on the market a variety of genetically modified (GM) corn, soybean and cotton seeds never seen before in the entire history of farming. To date, no epidemiological investigation has ever been conducted to reassure the general public on the effects of GMOs on human and animal health.

GMOs do not exist in nature: they are the result of a manipulation that - to a certain extent – removes the natural barriers between species. An example of how genetic manipulation might influence the health of entire populations is the one concerning the manipulation of cereals [5].

In the last few years, the use of hyper-fertilised wheat has led to an artificial increase of its gluten content: plus 12% compared to a standard one. Gluten is a lipoprotein found in wheat flour which mainly derives from the combination, through water, of two molecules: glutenin and gliadin. This increased concentration of gluten proteins, often three times more than the one our ancestors' organisms were used to, makes the wheat very different from the "old" and best-tolerated ones. The selection of such wheats is surely the cause of many gluten-related health problems. Our organism has not evolved enough to digest a large amount of these substances. Gluten sensitivity and the coeliac disease are only two of several pathologies related to this issue.

The influence of economics on the treatment of illness

Economic sustainability is now an issue to which health policies for prevention and treatment are inextricably linked. In recent decades, the healthcare expenditure in Western countries has shown a steady increase and health today is the most important sector of the economy of a nation. Western countries annually spend on healthcare a significant part of their gross domestic product (GDP). The United States in 2003 spent $ 5,635 - the 14% of GDP - for every single citizen: only $ 1,500 out of this amount were spent for the annual consumption of drugs per capita. Our country in 2005 spent €125 billion that is 7.8% of GPD [6].

The causes of this huge expenditure for acute and chronic diseases are multiple and complex. According to Voltaire, the physician's art would be to entertain the patient until nature heals him. Today, instead, we are witnessing the opposite phenomenon: many conditions, once considered as physiological, can now be considered as subject to therapeutic intervention.

Normal phenomena such as shyness, baldness, apathy, ageing, fatigue and unhappiness are considered as conditions that can be cured: new diseases that must be treated, often in a costly way [7].

Current challenges and future directions in medical science and health care policies and practice

The framework of the current situation is the increase in the number of diagnoses that, in industrialised countries, has reached grotesque dimensions. It is believed that Homo Sapiens had about 40,000 among diseases, syndromes and disorders. Fortunately, there is a remedy for most diseases. Nowadays the pharmaceutical industry keeps investing in research; however, it spends more for marketing than for innovation. About a third of the revenues and a third of the staff are used only to sell medicines [8].

The issues discussed so far call for a profound reflection about the future of the medical science: a modern health care system will be sustainable only if prevention policies are developed, through the protection of the environment and the promotion of correct eating habits.

It is fundamental, after all, to highlight that - to proceed in this regard - it is necessary to consider the role that culture has always played in the perception that every single person has about taking care of himself/herself. The link between health and care is an interesting topic that is being currently considered by social studies: in particular, the influence that culture and society have on people and their way of keeping healthy is being investigated. Research that starts from the assumption that “culture, as a complex system, is a way of organizing individuals and the relationships that connect them” [9].

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